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Some Observations on the Development of Veterinary Education to embrace more fully the Modern Needs of Agriculture*

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In the years immediately preceding the War it had become abundantly clear to most of those concerned for the future of the veterinary profession that our system of education needed readjustment. Our schools were all situated in large cities and the environment of our students during their college career was almost entirely urban. Not a small proportion of them were of town upbringing, yet there was a striking lack of facilities for adequate practical instruction in the maintenance of health and the treatment of disease in farm animals. Furthermore, consequent upon the great increase in the number of domestic pets which developed during the period between the two wars, the work and interest of many teachers were directed into small-animal channels.

These points were the corner stones of the Loveday Report on Veterinary Education, a document with the main provisions of which I was in hearty agreement. The war has necessitated that that report be pigeon-holed, yet at no time has it been so imperative that its recommendations should, if only in restricted measure, be acted upon.† If the schools are to play their full part in the national effort, and if our young graduates are to take their rightful place in post-war reconstruction, it is essential that these defects shall be remedied. Recognising this weakness in our educational system, the Royal College of Veterinary Surgeons, when that body introduced the five years' diploma syllabus, stipulated that students presenting themselves for the Final examination should produce evidence that they had received practical training during vacations with a practitioner. In my view, responsibility for the provision of adequate practical instruction lies with the schools. It is not one which can properly be deputed to practitioners. The quality of extra-mural teaching is bound to have great variations, while great difficulty is often experienced in suitably placing all students. While tuition with a practitioner should be regarded as a valuable adjunct to the student's professional training, it must not be considered an integral part of it.

It has been stated that these deficiencies could largely be overcome by the development, as part of each of the schools, of a field station, and it is my aim in this short paper to enlarge on that general idea. My remarks are based on the small experience I have gained of the organisation and administration of such an institution since I have been a member of the staff of the School of Veterinary Science of the University of Liverpool.

The essential objects of a field station are to provide adequate practical instruction in the subjects of:—

(*a*) Animal husbandry, regarding it in the widest conception of the term.

(*b*) Veterinary hygiene and preventive medicine.

(*c*) Clinical veterinary medicine and surgery as they relate to farm animals.

To utilise the facilities it will afford to the full, it is imperative that the students shall live at the station itself or in close proximity to it, so that they are available at all times. It is also necessary that the responsible members of the staff shall be so situated. It is impossible to consider practical instruction in all branches of these subjects in terms of academic hours, for so often the material required only becomes available outside such hours. Moreover, students should be expected to take part in the care of animals, both healthy and diseased, at the station, and many of these duties must be performed before and after the accepted college hours.

It will, I think, be accepted that the station should comprise firstly, an animal husbandry unit, and secondly, a hospital for the reception of farm-animal patients. A third part, however, is necessary—one which will provide adequate material for instruction in the varying forms of farm management, preventive medicine, and routine clinical work. It is upon this aspect that differences of opinion arise. In Edinburgh you have the advantage of a mixed veterinary practice attached to your school, and it has been suggested that such a practice should form part of the field station. I am against this view. I do not think that a practice is the best medium for routine instruction. For it, I would substitute a mixed group of farms in the vicinity of the station, the veterinary work of which is carried out entirely by the staff of the station, and to which students may be taken at any time. The college departments concerned would be those of animal husbandry, preventive medicine, and clinical medicine and surgery. (You will observe that I group clinical medicine and surgery together. For purposes of practical instruction I do not think they can be separated.)

The station should be so situated that it is within easy access of the college by train or omnibus, for it will be necessary for students resident at the station to visit the college on certain days, to attend the abattoir, and receive instruction on the commercial horse and the domestic pets. Care must be taken that in the enthusiasm for the field station those aspects of our training which can only be dealt with in towns are not neglected. With the examinations of the R.C.V.S., arranged as at present, many difficulties arise. Animal husbandry is a third-year subject and runs concurrently with anatomy. The departments of anatomy are housed in the colleges and are likely so to remain. It is thus necessary for the third-year student to spend most of his time in the town. Further, in the fourth year, pathology, bacteriology and systematic parasitology are the examination subjects and these necessitate daily attendance at the college, although this year is also occupied in the teaching of clinical subjects. In Liverpool we have partly overcome these difficulties by arranging for fifth-year students to reside at the field station—they attend the horse and dog clinic in Liverpool on one day a week during the summer and autumn terms, and three days during the Lent term—and for the third-year to spend days at the station during the summer term. In addition, it is hoped to arrange a vacation course for the third-year at the station at Easter. The new examination table recently outlined by the Royal College, in which animal husbandry becomes the main fourth-year subject, will, when in operation, make for a much fuller use of the field station, for then both the fourth and fifth years will spend the greater part of their time there. With regard to the departments of pathology, bacteriology and parasitology, it is possible that existing buildings and facilities will necessitate that these remain in the city. Yet I believe that these would be more appropriately situated at the field station also. The pathologist and the clinician are complementary and neither can function to his full usefulness when they are separated. Under the new R.C.V.S. syllabus it would be quite convenient for the third-year also to attend the field station. It should not be difficult to arrange for them to visit the college on one or two days a week for the second part of the course in physiology and biochemistry.

By adopting these measures the whole outlook of the student would become altered, for he would spend the greater part of at least two years of his professional training in close contact with agriculture and the animals of the farm.

THE ANIMAL HUSBANDRY UNIT

This should be a small, intense unit with up-to-date buildings. Its objects are to illustrate the best methods of animal management, breeding, disease control and food production. It should possess a small herd of dairy cows, preferably of different breeds. Heifer calves should be reared and bull calves of the appropriate breeds kept for fattening. A small herd of pigs, including breeding sows, should be developed, together with a flock of poultry of varying breeds and kept under different systems of management. Also, the unit might well include a few milking goats, a rabbitry and, possibly, some colonies of bees. I have not mentioned sheep. I think it better that one or more flocks belonging to the farms attached to the station should be used for instruction in flock management, dipping, shearing, etc., although a few ewes should be admitted for parturition. The amount of land attached to the unit should not be too great—about 30 acres should suffice. The greater part of this will be pasture, but there must be sufficient to arrange periodic ploughing. The unit should possess a garden where specimens of the grasses and other feeding-stuffs are grown, together with specimens of poisonous plants.

During their course in animal husbandry students would live with the animals. They would play an active part in their care and management and thus become familiar with them in health. The

* Address to the Scottish Metropolitan Division, N.V.M.A., annual meeting at Edinburgh, February 10th, 1943.

† Since writing these remarks we have heard that the Loveday Committee has been resuscitated. This is gratifying news.

handling of them would become second nature. Breeding operations—mating, artificial insemination and parturition—would become routine affairs. Feeding; the care of young; milk and egg production would become matters of personal experience. Contact with animals in this way would instil a sense of ownership and make students more sensitive of the farmers' viewpoint. I have mentioned goats, rabbits and even bees. As veterinarians, we are called upon to advise the public on a large variety of species. The least that can be expected of us is that we have some practical knowledge of the more useful ones.

You will notice that I have omitted the word "farm" in relation to the animal husbandry unit, and also that I have been modest regarding its size. These points require explanation. The value of the field station will lie in the variety it affords. Students must have the opportunity not only of seeing the good methods but of comparing them with others. Again, the teaching staff will require time for investigation and research. If the unit is too large and embraces all aspects of agriculture, its management will occupy too much of their time and their work will be hampered by the business aspects. One of the chief objects of the farms attached to the unit is that ample and varied agricultural material shall be available with little of its worry. While the unit would be developed primarily for instruction in animal husbandry, it would also be utilised for clinical teaching. It would provide part of the material required for instruction in pregnancy diagnosis, tuberculin testing, blood taking, prophylatic vaccination, helminth treatment, and also routine operations such as castration of calves and pigs, and the caponising of poultry.

The Hospital

The objects of the hospital are to provide instruction in the more detailed aspects of clinical veterinary medicine and surgery, obstetrics and gynaecology—if one may be allowed to apply this word to diseases of the genitalia in animals—diagnosis, course, treatment (both medical and surgical) and prognosis. On the surgical side these will include methods of casting and restraint, technique of anaesthesia, the principles of surgical cleanliness, the details of a number of the more specialised operations, and the post-operative care of animals. If our graduates are to become competent surgeons it is essential that they shall see a representative group of operations performed on farm animals by an efficient operator during their college career. This cannot be replaced by lectures, textbook reading or practice on the cadaver. (The last of these certainly develops manipulative dexterity, but as surgical instruction is unreal.) I believe there is considerable scope for a veterinary hospital situated in the country in the treatment of the more severe forms of dystocia in cattle. Experience on the Continent and in America has shown this to be the case. As yet we have only touched its fringe. At the moment transportation constitutes one of the difficulties, but there is no doubt also that we shall have to break down the conservative outlook of many farmers and even some practitioners in this connection. At the same time I have great hopes for the future.

The success of the venture will depend very largely on the goodwill and active co-operation of practitioners in the district. Our experience has been that this will be readily forthcoming provided we, on our side, are ready to give assistance at all times and are prepared to take the rough with the smooth. We believe it to be essential, if this goodwill is to be maintained, that cases shall only be admitted to the hospital on the recommendation of a practitioner. This is one of the points I have against a practice. If, as the result of the development of a practice at the station, practitioners come to regard the latter as a competitor, then a vast field from which the hospital might draw material would become closed. In order that the hospital shall be utilised to its full purpose, particularly in the subject of medicine, it is essential that money shall be available for the purchase of diseased animals. There are many conditions, especially in cattle, which are not likely to be referred ordinarily to a hospital, and which may not be forthcoming in sufficient numbers from the farms attached to the hospital. I refer to cases such as Johne's disease, actinomycosis, tuberculosis, nephritis, parasitism and sterile animals. Here again one cannot succeed without the help of the practitioner.

The hospital should have provision for housing about 15 large animal in-patients. For cattle the boxes must be self-contained. Attached to it should be some ten acres of pasture, divided up into paddocks of about one acre. I would stress the necessity for the provision of paddocks for operation cases, for it has been our experience that during spring and summer horses and cattle make more rapid progress at grass than when housed. Arrangements must be made for the periodic closing of certain of these paddocks after contagious cases.

The Farms

These form the most important part of the whole scheme. They should be four or five in number, and represent, as far as possible, a cross section of general farming and dairying conditions. Their situation should be within easy cycling distance of the station. They should comprise about 1,000 acres and between them possess about 300 dairy cows with the appropriate number of bulls and young stock "coming on." There should be about 20 farm horses with, say, half a dozen breeding mares. It is desirable that one of them deals with the fattening of steers, although in this connection and that of breeding mares, difficulties will arise in many parts. Between them the farms should possess some 30 breeding sows, together with several hundred fattening pigs. A flock of 150 ewes should be available. One or two of these farms might with advantage be the property of institutions, local councils or large business firms, where profit is not the entire motive, for these offer much greater scope in disease eradication programmes. The others, however, should be representative of general dairying conditions. The department of animal husbandry would utilise them for instruction in herd management, farm buildings, milk hygiene, crop husbandry, feeding and rearing. The opportunities they would offer are manifold. They would furnish material for instruction in all aspects of preventive and clinical medicine, parasitology, obstetrics and gynaecology. The vagaries of the tuberculin test; the problems of the control of contagious abortion; the course of normal and abnormal parturition, the incidence and treatment of mastitis; and the physiology of reproduction and the *post-mortem* findings in cases of sterility, would become to them real things. Their outlook on these subjects would be based on the accumulated practical experience of their school and not upon a mass of highly controversial literature.

To develop such a teaching medium it is necessary to have, first, the public-spirited farm owner, who appreciates the needs of our schools and is prepared to place his animals at their disposal; second, the self-sacrifice of practitioners, who will be asked to hand those farms over to the schools; and third, a staff, not only competent to carry out the work, but possessing also that manner and tact which inspire collaboration by farm workers. No doubt farm owners will have many qualms at first. I can reassure them. They need have no fear regarding the handling of their animals by students. No harm will result, and such handling will only be carried out under the supervision of responsible veterinary surgeons. The benefits accruing from the arrangement will be mutual. The farmer will certainly not be the loser, in fact he stands to gain a great deal. The third point is an important one, for upon it the success of the venture will, in large measure, depend. Care must be taken that visits by staff and students do not seriously interfere with general farm management, and that they do not entail extra work for the already overworked farm servants. There must be a spirit of forbearance. We must listen with sympathy and not scorn to the views and ideas of the cowman and the pigman. Many of them, although not within the realms of science, are sound and based upon years of practical experience. If we antagonise these men they can easily wreck our plans. Before leaving this aspect of the subject, there is one further point I would mention, which influences the success of the scheme—it is the size of classes. There will always be a limit to the amount of practical material available, and, if teachers are to develop useful work of their own, there must be a limit to the amount of time they are to spend with classes. Thus the size of the class must be kept within bounds. I would put the maximum for each of the fourth and fifth years at 30 students. I do not propose to digress by following up the repercussions such a statement may have.

At Liverpool we are developing on these lines.

(From this point Professor Wright went on to describe some of the details of the Field Station being developed by the Veterinary School of Liverpool University at the Wirral, Cheshire. He paid tribute to those veterinary surgeons who had so readily handed over to the School farms which had been part of their practices, and also expressed his gratification at the manner in which practitioners in the region had co-operated by sending them cases.)

Our future policy is to increase the scope of the hospital through the medium of an ambulatory system. We believe that by its development more emergency cases would become available and that they could be admitted and dealt with without delay. An ambulance with a member of the staff and a team of students would be available to proceed to farms at any time.

In conclusion, please allow me to address a few remarks to the students, who, I understand, are here this afternoon. We, your teachers, recognise that your task is a hard one. Examinations are becoming more exacting from year to year. The profession demands that you shall possess not only greater breadth of knowledge but more detailed experience also. Success can only be obtained by unremitting study and attention. You pass from schoolboy status to full professional manhood in the short period of five years. The chief aim of your teachers is to give you a sound grounding in the principles of our science; a foundation on which you can later build a solid edifice of professional knowledge. One of their most important duties is to instil in you a critical, enquiring mind. You

have been instructed in the necessity for and the method of making careful and detailed examinations. To these points I would add—write down your findings, clearly distinguishing between fact and impression. Regularly review that which you have written. Follow your cases to the *post-mortem* room, for it is there that your observations are put to the acid test. Correct your errors. Later on (and reflect, I say later on) you will have something valuable to make known to your colleagues. Finally, rest assured that the keynote of your professional life in the brave new world that is to come must be service.

Professor Boddie, in opening the discussion, said: In any consideration of veterinary education it is well to remember the relation that exists between the Royal College of Veterinary Surgeons and the teaching schools. The Council of the Royal College are concerned with curricula and premises. Perfect all these and the teaching will still be useless as a guide to full, vital, intelligent living unless the teacher is aware of his calling's power and has the passion to live and teach up to it.

Professor Wright points out that many of our students have been brought up in the large towns and therefore are unacquainted with animals in health. He suggests that at the field station the students will receive instruction—entirely practical instruction I hope—in animal husbandry in its widest sense. This is a very good plan as far as it goes and should do much to supply the instruction needed in this subject. But I do not think instruction at a field station is by itself sufficient. I am firmly convinced that it should be an essential requirement of all veterinary students that before presenting themselves for their third professional, they produce evidence that they have spent at least 12 months living and working on a mixed stock farm. If a candidate for the B.Sc. in Agriculture can do this, I see no reason why the veterinary student should not. I need not enlarge on the benefits the student would derive from this preliminary work among healthy stock. I would venture to suggest that cleaning out a dairy byre is at least as valuable a piece of training in practical physiology as an experiment conducted with the gastrocnemius muscle of a frog.

I find myself in wholehearted agreement with Professor Wright when he says that "while tuition with a practitioner should be regarded as a valuable adjunct to the student's professional training, it must not be considered an integral part of it." There is no doubt that the detailed instruction in diagnostic methods can only be given on patients under conditions where ample time is available to go fully into each case. Neither practitioner nor client has the time available to do this in the detail required for junior students in the clinical subjects. But if tuition with practitioners is to remain part of the training—and I have no doubt that it should be used to widen the field of the student's experience—no student should be allowed to undergo such tuition until he has passed his third professional examination. It is absolutely absurd that a student without a knowledge of anatomy, physiology or pathology should attempt to learn clinical methods. How in the world can a student appreciate the significance of the symptoms of a case if he has no knowledge of pathology? There is no doubt that many students have suffered irreparable harm from seeing practice too early in their college course.

An aspect of clinical science that does not appear to have received the attention that it merits is epidemiology, or if you wish, epizootology. In dealing with herds and flocks, not only in this country but also overseas, the veterinarian requires to be possessed of a sound knowledge of the principles of epidemiology.

A point that Professor Wright has not dealt with is that of specialisation. We have thought in the past of a clinical unit being the individual practitioner. The day is not far distant when the clinical unit must become a group in which are to be found specialists in the various phases of veterinary science. The schools must have facilities to give the advanced training required to equip these specialists. It would be a logical development of Professor Wright's field station plan to provide these facilities for advanced teaching on the practical side.

Now, a general point—Is it wrong to say that in the past veterinary colleges have been to too great an extent vocational seminaries? Surely we need education in its true sense as well as training.

In Liverpool the School of Veterinary Science is part of the University. Here we are affiliated to the University, and our students read for the B.Sc. degree. Would it not be to the ultimate advantage of the profession if veterinary education was embraced by the universities? This would not usurp the function of the Royal College; indeed, it would strengthen its powers, for it would place the Royal College in a position equivalent to that of the General Medical Council, which, as you all know, is a very powerful body.

Finally, if all our work is not to be in vain, we must remember the words many of us heard one Sunday night recently—the words of one of Robert Bridges' sonnets, "Who builds a ship must first lay down the keel of health."

Weekly Wisdom

Dr. William Bulloch, Professor of Bacteriology in the University of London, who had acted as examiner in Pathology to the Royal College of Veterinary Surgeons, stated in evidence . . . that he had set exactly the same papers for veterinary students as for medical students, and that in one case he had used the same paper as had been set for candidates for the Pathology Prize for the London Hospital Medical College. It was his considered opinion that veterinary students were better grounded in pathology than medical students . . . this opinion should be placed on record in view of strictures which have been passed upon the standard of training at the veterinary colleges."—Report of the Advisory Committee on Research into Diseases in Animals, 1922.

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Sir John Russell, speaking at the Royal Society of Arts recently, declared that the question of phosphates is one of the key problems in agriculture. It was not easy to find a solution of the problem. They could not collect phosphate from the air as they did nitrogen, and they could not get it out of the seas as they got potash. Phosphate occurred in only certain limited regions of the world, and phosphate distribution was going to be one of great importance in view of the fact that the supplies were in the hands of two or three nations and the rest were dependent on these supplies.

Some Thoughts on Veterinary Education, and Other Topics*

Sir ARTHUR OLVER,

Principal, Royal (Dick) Veterinary College

It is customary for the President each year to deliver a presidential address, and as Principal of this College it may seem appropriate that I should refer in detail to the various proposals which have recently been under discussion by the R.C.V.S., to modify our present system of education.

These proposals are, however, still under discussion, and as we are so fortunate as to have Professor Wright with us to-day† to give us his views on one most important aspect of veterinary training, I shall confine myself to a few random remarks on veterinary education and veterinary work in general, as I see it after four and a half years in my present post and many years of experience at home and abroad.

At the outset I would like to say that I am very pleased to know that the Loveday Committee on Veterinary Education is to reassemble at an early date "to review the recommendations made in 1938 in the light of the circumstances existing at the present day." Though we may not agree with all of them, there is no doubt that up to the outbreak of war the findings and recommendations of this committee were of very material assistance in enabling us to secure funds for the additions and reconstruction which were, and to a considerable extent still are, necessary to place this college on a proper footing for a thorough course of modern veterinary teaching in all its branches.

In saying that I do not wish it to be understood that I accept the view which appears to have been accepted by that committee, and is still very generally believed in this country, that our standards of education and training are low compared, for example, with those of medical students.

As you know, our entrance qualification has for years past been the same as is required for admission to any British University, and I can say that I have repeatedly been informed by teachers, examiners and others who have intimate knowledge of both, that the training of our students for the basic sciences compares very favourably with that of medical students for the corresponding subjects in their curriculum.

That this is so is borne out by the fact that since the beginning of the war, all Surgeons' Hall and all Dental College students in Edinburgh have, at the request of their respective Deans, been given the whole of their training in the subjects of physiology, biochemistry, and histology at this College, as a war measure.

On the other hand, it has to be admitted that due to lack of finance and proper support, British veterinary colleges have in the past lacked adequate facilities for the proper training of their students in the practical handling, feeding and management of livestock, which I know you will agree is of vital importance to all veterinary graduates, whether they propose to go into practice, take up official appointments or devote themselves to research.

This is a difficulty of veterinary education which has been under discussion ever since I became a veterinary student some 50 years ago, and none of the attempts which have been made to meet it has proved entirely satisfactory. Extra-mural training has been made compulsory, but practitioners, who I may say have not all been helpful in this respect, still complain that the necessary standards of animal-mindedness have not been reached.

From my experience as Principal of this college, I am convinced that to provide satisfactorily for such training at veterinary colleges it is essential for every college to have a suitable field station where batches of students could live for prescribed periods and be given practical courses of instruction under expert instructors.

In addition, I feel sure that six months' compulsory pupilage on a stock farm or, in the case of farmers' sons, with a suitable practitioner, immediately before going to college, would be of inestimable value, particularly for students who had had no previous experience of livestock.

Nevertheless, from years of administrative service in this country, South Africa during and after the Boer war, in the Sudan and Egypt, in France, the U.S.A. and Canada during the 1914-18 war, and finally in India, I can say that in my experience, wherever they have been backed by a suitable organisation under effective veterinary direction, British veterinarians have been outstandingly successful in disease control and the practical management and feeding of stock.

Research, however, is a matter in which British veterinary graduates have been, and still are, at a great disadvantage compared with graduates of other sciences, and for years past the control of veterinary

* Presidential Address to the Scottish Metropolitan Division, N.V.M.A., meeting in Edinburgh, February 10th, 1943.

† Professor Wright's address receives publication at the commencement of this issue.—*Editor.*

research has passed more and more into the hands of workers who have not the necessary training and experience of the care and management of animals to enable them to form really reliable conclusions on practical problems of health and disease in the various species of domesticated animals.

The present position is to some extent due to lack in the past of any encouragement to veterinary students to take up research while at college, but in the main it has been due to lack of openings for satisfactory careers in research. Above all, it is due to the fact that under the conditions of extreme penury in which veterinary colleges have been carried on in this country, the necessary funds and facilities have not been available at veterinary colleges and it has been quite impossible for the very restricted teaching staffs to devote adequate time to research.

In recent years increasing numbers of our students have been successfully placed in research, and it is to be anticipated that more will follow, provided that it is made financially possible to retain, at veterinary colleges, teachers of the necessary calibre and experience to carry on such fundamental research in their respective subjects, as must always be an essential part of their work if their teaching is to be kept alive and abreast of the times.

At present, adequate provision for such research is still lacking in most veterinary colleges, and if the veterinary profession is to hold its own in the very wide and rapidly expanding field which is its rightful province, this is a difficulty which must be removed, so as to give students an insight into research methods and a spirit of close and accurate enquiry.

All of these are matters to which I am confident the Loveday Committee will give due consideration, and I feel that the present is a very favourable time for them to reassemble and reconsider their recommendations, for it seems clear that the impact of this war has at long last brought the people of this and other countries to a proper realisation of the great sociological as well as economic importance of health and efficiency in livestock.

It may, moreover, be hoped that Government will be prepared to make more adequate provision for the scientific study and development of livestock and the livestock industries than has hitherto been the case in this country, and it is clearly necessary that the veterinary profession should bestir itself to demonstrate its ability, not only to treat individual cases of disease, but also to promote health and efficiency in farm animals of all kinds. Should it fail to do so at this critical juncture, it is evident from what is daily occurring that there will be no lack of eager trespassers on the veterinary field. Largely for this reason, and the backwardness of this country in regard to systematic care of stock and control of disease, I gave my support to the N.V.M.A. scheme for the control of the four major diseases of dairy cattle, and already in England that scheme has had considerable effect in bringing stock owners and veterinarians together in a country-wide effort to control disease and promote health and efficiency as a war measure.

In short, in veterinary as well as human practice, the day is, I believe, rapidly passing when the public will be willing to accept the treatment of individual cases of disease as the best that can be done to promote their interests. Farmers and stock owners are far better educated than they were, and know that there is far more to be hoped for from protective inoculations and similar measures than from many bottles of medicine. Indeed, I feel sure that unless the veterinary profession can show its ability to deal effectively with the wider and economically far more important problems of controlling disease, eliminating disease-producing factors at their source and developing and controlling the animal industries along modern scientific lines, its estimation in the public eye will fail to reach the high level to which it has been raised in countries where such matters are dealt with by comprehensive organisations, under unfettered veterinary control.

Ever since the League of Nations' report on Human Nutrition was published in 1928, the medical profession has become more alive to the necessity for devoting close attention to diet and other causal factors which affect health and efficiency and resistance to disease among human populations, and in recent years there has been a notable move towards co-ordination of effort and collaboration in medical circles, along with the establishment of institutions and subordinate services, such as nursing and massage, devoted to particular aspects of medical work.

By these means the medical profession has been able greatly to augment its powers of rendering efficient service to the public, and I believe that as time goes on, veterinarians will have to pay more and more attention to the control aspect of disease. Despite some loss of the individual touch for which the old-time practitioner was valued, there is little doubt that the demand for systematic control of disease and other factors affecting livestock production, maintenance and disposal will be increased after the war, and it is clear that the establishment of an adequate organisation for the scientific study and control of such work must involve a great extension of facilities for research and scientific investigation of livestock problems.

This brings me to a suggestion which was put forward at the summer meeting of the Society of Veterinary Practitioners which, if I understand it aright, is a proposal that lay assistants for veterinary practitioners should be trained and registered by the R.C.V.S. to carry out, under veterinary direction, duly prescribed preventive and curative measures, particularly as applied to large numbers of the smaller farm animals—sheep, pigs and poultry. It so happens that in the course of 45 years of official service in various countries, in which I have worked in close association with civilian veterinary organisations or have myself been responsible for the control of disease and the maintenance of health and efficiency among very large numbers of livestock, I have had very considerable experience of working with and through partially trained men of this kind. For example, in South Africa during the South African war, when the Army Veterinary Service became responsible for the control of disease amongst livestock in the occupied territories, it was impossible to secure the number of qualified veterinarians that were required, and it was necessary to have recourse to stockmen who, after a suitable course of training, were made responsible for the early detection and reporting of outbreaks of disease and for calling in qualified veterinarians, whenever necessary, to make a definite diagnosis and prescribe suitable measures of control.

Again, in the Anglo-Egyptian Sudan, for the whole of which I became responsible immediately on my arrival in 1906, I found rinderpest raging on both banks of the Nile and rapidly approaching Khartoum. Had it reached Khartoum, nothing could have prevented its extension to Omdurman on the opposite bank of the Nile, and from there to the whole of North and West Africa, with catastrophic results. At that time I had at my disposal only two qualified veterinarians for a territory about half as big as Europe, and though it is true that a great deal of it is desert, there is no doubt that I could never have succeeded as I did in stamping out rinderpest along the Nile before it reached Khartoum, without the asssitance of stockmen and quarantine personnel, working under my direction.

Again in India, with something like 200 million livestock to deal with and a totally inadequate veterinary force, the only possible way of securing the vastly extended results which were needed was to engage and train suitable men as stockmen and employ them under the orders of veterinarians, each of whom, given such assistance, could undertake the control of disease in a far larger area than would otherwise have been possible. There was considerable opposition from members of the veterinary profession, on the ground that it would be taking the bread out of the mouths of graduates of Indian veterinary colleges, and it had to be pointed out that so long as their activities were confined to such curative treatment or limited inoculation as they could carry out individually—in the vicinity of their headquarters or in such villages as they might reach on tour—it would never be possible for any provincial government to give veterinarians the increased emoluments which they constantly demanded. In fact, only if and when their activities could be augmented by a duly trained subordinate service could adequate rates of pay become economically possible, commensurate with their relatively long and steadily increasing courses of study.

From the reports received since, it appears that this system of employing trained stockmen has been extended to many parts of India, and the difficulty the veterinary profession of this country is now experiencing in securing a satisfactory Bill to control unqualified practice raises the question whether it would not be wise to give careful consideration to the possibilities of providing proper courses of training in subsidiary veterinary work for technical assistants in such matters as routine inoculation and meat inspection, and of registering them as veterinary subordinates, to work under veterinary control and relieve practitioners of much of the routine work which is likely to be demanded on an ever-increasing scale.

Conditions abroad are of course quite different, but if satisfactory remuneration is to be secured for our graduates, the same principle must eventually apply; something more than the treatment of already sick animals will be demanded, and to secure and justify high levels of remuneration, veterinarians will have to adopt every modern means of perfecting and extending their activities.

We cannot afford to stand still while others progress, and suggestions of this kind have to be duly weighed in arriving at final decisions on the extremely difficult question of controlling unqualified veterinary practice. In this connection it has to be remembered that the medical and dental professions have secured the measure of control which they now enjoy by recognising unqualified practitioners and arranging for the proper training and employment, under their control, of nurses, masseurs and other ancillary personnel to augment their powers of rendering proper scientific aid to their patients.

It should also be borne in mind that no proposals which will not secure the approval of Parliament can be of any value whatever, and that meanwhile other bodies with very powerful public backing are busily at work training an ever-increasing uncontrolled force of unqualified animal practitioners.

CLINICAL COMMUNICATION

Sulphapyridine (M & B 693) in the Treatment of Bovine "Summer Mastitis"

A Case Report

by

G. H. ARTHUR,

School of Veterinary Science, University of Liverpool

In the discussion on Dr. R. Lovell's paper (1943), "The Source of *C. pyogenes* Infections," read before the Central Veterinary Society, it was suggested that sulphapyridine should be used in the treatment of "summer" mastitis. Thompson, A. (1940) has reported favourably on the use of M & B 693 in this condition, but Roach, R. W. (1942), who treated some ten cases, found no improvement in the affected quarters. The following case record of typical *C. pyogenes* mastitis in which M & B 693 was given by drench, and M & B 730, a neutral derivative of M & B 693, was employed by udder infusion, substantiates the findings of Roach.

Subject.—A three-year-old pedigree Ayrshire cow, which calved her first calf on 20.7.41.

History.—The subject, one of a group seen daily, was found to be affected on the morning of 3.8.42, and a veterinary examination was made at noon.

Symptoms.—Acute mastitis affecting the right forequarter; secretion, thin greenish-white pus with an offensive odour; temperature, 102·5° F., pulse 80; respirations accelerated. The whole udder was oedematous and the state of the pelvic ligaments indicated that parturition was imminent.

C. pyogenes was isolated in culture from the secretion of the affected quarter.

Treatment.—3.8.42—Noon: The affected quarter was stripped and washed out with 100 c.c. M & B 730, and then infused to capacity with 200 c.c. M & B 730. The quarter was massaged and the solution left in it for eight hours. 100 gms. M & B 693 were given in drench. An injection of *C. pyogenes* toxoid (Lovell) was given subcutaneously.

8 p.m.: The cow calved a healthy heifer calf (279 days). She was eating and her temperature was 102·2. The affected quarter was more diffusely swollen and hotter than normal. A further dose of M & B 693, 25 gms., was given by the mouth. The foetal membranes were expelled during the night.

From 4.8.42 to 11.8.42 (inclusive) M & B 693, 25 gms., was given in drench at 9 a.m. and 8 p.m. each day. The quarter was infused with M & B 730 on 5.8.42 (10 minutes), 7.8.42 (12 hours), 8.8.42 (12 hours), and on 9.8.42 (12 hours). On 13.8.42 the quarter was infused with sulphacetamide (12 hours). During this period, in the intervals between infusions, the quarter was stripped frequently.

Progress.—Despite treatment with sulphapyridine, the disease followed its natural course. The three sound quarters secreted normal milk, in medium quantity, and the calf thrived. The affected quarter became progressively harder, its secretion more purulent and diminished in quantity. Infusion became more difficult to perform, and on 13.8.42 only 15 c.c. sulphacetamide could be introduced. Temperature fluctuated between 101·8 and 103·8° F., pulse between 72 and 90. Appetite remained good and rumination normal, but in spite of this the cow lost bodily condition rapidly. There was a progressive tendency to recumbency with reluctance to rise. On rising, pain was manifested by acceleration of respirations and shifting of weight alternately between the hind feet. She walked with difficulty and very stiffly.

On 15.8.42 the cow was turned out in a paddock.

17.8.42.—Acute mastitis developed in the right hindquarter, and *C. pyogenes* was later isolated in culture from the secretion. By this time the right forequarter was markedly fibrous and a little discharge only could be drawn from it. Temperature 104·3°. The region of the right hock was enlarged and painful. Sulphanilamide, 125 gms., was given by drench at 8 p.m.

18.8.42.—10 a.m.: A further 50 gms. of sulphanilamide given. 8 p.m.: Temperature 103·7°; inappetence. 50 gms. sulphanilamide given.

19.8.42.—Animal eating and ruminating. Temperature, 102·7° F.; 50 gms. sulphanilamide given.

20.8.42.—Little change; temperature, 103°. Secretion—right forequarter, pus; right hindquarter, serous with a fine yellow sediment.

22.8.42.—Swelling of hock burst, and discharged yellow pus. From this *C. pyogenes* was isolated in culture.

2.9.42.—The udder burst in the mid line, and discharged through a small aperture. Loss of bodily condition had been continuous, and the animal was now a gaunt figure. She was lame, recumbent, and rose reluctantly on her hind legs to graze, taking weight on her fore knees. When made to rise on the fore feet, weight was quickly transferred from one foot to the other. On moving she advanced gingerly, putting the heels to ground first (toxic laminitis). There was acquired deformity of the hooves with curling of the horn of the toes. At this stage slaughter was advised.

* * * * *

Two other first-calf Ayrshire cows in the same bunch of attested and abortion-free cows as the above subject developed *C. pyogenes* mastitis on 6.9.42 and 17.10.42 respectively. Each had been given one prophylactic dose (10 c.c.) of *C. pyogenes* toxoid (Lovell) on 8.8.42. They calved on 16.9.42 (280 days gestation) and 19.10.42 (282 days gestation) respectively. They were treated on similar lines to the above case. Each cow lost the affected quarter. Systemic involvement was not so severe but there was rapid loss of condition. Subsequently each of them improved and they are now in good condition.

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Two first-calf Ayrshire cows in another herd in the same district developed acute Corynebacterial mastitis when dry, on 6.9.42 and 16.12.42. They calved on 30.12.42 (277 days gestation) and 17.12.42 (284 days) respectively. Neither of these had received toxoid. They were treated similarly to the above. In each case the affected quarter was lost but the loss in condition was not marked.

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On the results of these few cases the writer is of the view that M & B 693 exerts no specific curative effect in *C. pyogenes* mastitis when administered in doses usually employed in veterinary medicine.

Acknowledgments.—The writer is indebted, through Professor J. G. Wright, to Dr. R. Lovell for a supply of *C. pyogenes* toxoid, and to Messrs. May and Baker, per Miss M. H. Weddell, M.R.C.V.S., for the free supply of M & B 693, M & B 730, and sulphacetamide. Bacteriological examinations were carried out by the department of Veterinary Pathology in the University of Liverpool.

References

Lovell, R. (1943.) *Vet. Rec.*, **55**, 99.
Thompson, A. (1940.) *Vet. Rec.*, **52**, 799.
Roach, R. W. (1942.) *Vet. Rec.*, **54**, 471.

ABSTRACTS

[FEEDING AS A CONTRIBUTORY FACTOR IN THE DEVELOPMENT OF CHRONIC MASTITIS. Moore, E. N., Henderson, H. O., Van Landingham, A. H., and Weakley, C. E. (1942.) *Amer. J. vet. Research.* **3**. (154-158.).]

A study was made of 26 animals to determine the effect of heavy corn feeding as a contributory factor in the development of mastitis, and 16 animals to determine the effect of rate of feeding the grain ration.

No appreciable difference between the experimental and control lots was noted in the incidence or severity of mastitis. Physical, biologic and chemical tests demonstrated wide variation in the severity of mastitis among individuals, but not between the two groups.

The experimenters concluded that no appreciable increase in the incidence or severity of mastitis occurs as a result of the kind of ration or the rate of grain feeding under the conditions of these experiments.

D. W. M.

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[THE BIOCHEMICAL DEFECT IN NICOTINIC ACID DEFICIENCY. Handler, P., and Dann, W. J. (1942.) *J. biol. Chem.* **145**. 145-153.]

The acute stage of canine blacktongue is characterised by a rapid and severe loss of body weight, and the authors investigated the possibility that dehydration and electrolyte imbalance are responsible for death. (They had previously ascertained that death does not appear to be due to simple cozymase deficiency.) Repeated large doses (up to nearly 10 per cent. body weight) of normal saline were injected subcutaneously into affected dogs, and striking results were obtained, it being possible to obtain remission of symptoms even in moribund animals. Dogs which "recovered" in this way survived without further treatment for periods of from one to six months, although they continued to receive a nicotinic acid deficient diet. The administration by mouth of sodium chloride tablets (3 grammes per day) resulted in a similar, but less rapid recovery, but injection of isotonic glucose solution was without beneficial effect. When death finally supervened, it was not preceded by typical "blacktongue" symptoms.

The nicotinic acid content of liver, muscle and renal cortex continued to fall during the period of prolonged survival, and a profound anaemia developed, but the values for plasma protein and for blood non-protein-nitrogen, glucose, chloride and CO_2-combining power returned to normal within two weeks of the remission of symptoms, the glucose and CO_2-combining power falling again as death approached.

A. N. W.

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[PARTIAL AGENESIS OF THE CEREBELLUM IN DOGS. Dow, R. S. (1940.) *J. comp. Neurol.* **72.** 569-586. (5 figs., num. refs.).]

It is unusual that cases of abnormal development of the cerebellum are detected long enough before death to permit adequate examination of muscular activity, reflex responses and other neurological signs. Two such cases in Boston bull pups (litter-mates) are described. They were first examined at 3 months old: one lived for 20 months and the other for nine months. Symptoms were as follows: intermittent extensor spasm of the limbs, head tremors and inco-ordinated movements with a tendency to circle and fall. Cranial nerve tests showed no abnormality, but tendon reflexes were hyperactive and placing and hopping reactions irregular. The condition of both animals was good. *Post-mortem* findings were identical in both cases and revealed an agenesis of the posterior portion of the vermis of the cerebellum and closely associated structures. Evidence is produced which suggests the possibility that in this condition normal development of the cerebellum is arrested.

C. W. O.

QUESTIONS IN PARLIAMENT

Sheep (Artificial Insemination)

Mr. Kirby asked the Minister of Agriculture whether, in the interests of increased home food production, he proposes to urge upon sheep farmers in Great Britain the use of artificial insemination which is reported to have been tried with great success in Australia, thus increasing the annual lamb yield?

Mr. Hudson: In the absence of evidence that artificial insemination of livestock on a large scale is appropriate or practicable under ordinary farming conditions in this country, it would be premature to encourage the general adoption of the practice. In the case of cattle, two large-scale field experiments have recently been instituted at Cambridge and Reading, but I am not of the opinion that the time is yet ripe for their extension to sheep.

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Milk Supplies (Medical Officers' Powers)

Mr. David Adams asked the Minister of Health whether medical officers of health have authority to reject milk on sale in their areas which, by appropriate tests, is shown to contain pathogenic organisms which might be productive of disease to consumers?

Mr. E. Brown: Medical officers of health of local authorities have powers for stopping a supply of milk where they have evidence that the milk has caused infectious disease or that the milk has been infected with the causative organisms of such a disease. It is also an offence to sell the milk of a cow which has given tuberculous milk or is suffering from certain scheduled animal diseases.

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Milk Pasteurisation (Scotland)

Mr. T. Henderson asked the Secretary of State for Scotland whether he has received any demands for a compulsory pasteurised milk supply in Scotland; and what action is he prepared to take?

The Joint Under-Secretary of State for Scotland (Mr. Westwood): Apart from Glasgow Corporation's private legislation proposals of 1936 that all milk sold in the City should be pasteurised, no such demands have been made recently. The recommendations for an extension of pasteurisation made by the Committee of the Medical Research Council on Tuberculosis in War-time are presently under consideration.

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Pit Ponies

Mr. David Adams asked the Minister of Fuel and Power the number of ponies employed underground in the mines of the country this year compared with 1938?

The Joint Parliamentary Secretary to the Ministry of Fuel and Power (Mr. Tom Smith): The number of horses, as recorded, on colliery books at June 30th, 1938, at mines under the Coal Mines Act in Great Britain was 32,524. Particulars for 1943 are not available, but the comparable figure at June 30th, 1942, was 26,593.

Mr. David Adams asked the Minister of Fuel and Power to what extent, in the interest of maximum production, he receives reports as to the proper feeding and reasonable employment of pit ponies in the mines of the country; and how far there has been an increase in fatality rates due to underfeeding and overwork?

Mr. T. Smith: The feeding and conditions of work of pit ponies are watched from day to day by the Inspectors of Mines, who take such action as is necessary at the time and report to my right hon. and gallant Friend periodically on the general situation, which continues to be satisfactory. The fatality rate has not increased and I know of no evidence which would suggest that ponies have died from underfeeding or overwork.

Mr. Adams: Is my hon. Friend aware that 44 per cent. of the ponies in Northumberland and Durham Counties are unemployed and that there are allegations in certain districts that ponies are being worked two shifts and are dying through exhaustion and underfeeding?

Mr. Smith: I know that relatively Northumberland and Durham Counties have the largest number of pit ponies underground. If my hon. Friend knows of any particular pit where ponies are being treated unfairly, I shall be glad to look into the question.

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Motor Vehicles (Immobilisation)

Mr. G. Strauss asked the Home Secretary whether he is now in a position to make any further statement on the subject of the immobilisation of unattended motor vehicles?

Mr. H. Morrison: Yes, Sir. The Government have given careful consideration to this matter and have decided that some relaxation of the existing orders would be justified at the present time. Amending Orders have accordingly been made by which the requirement of the immobilisation of unattended motor vehicles will cease to have effect, except in the counties of Norfolk, Suffolk, Sussex, Hampshire, Dorset, Devon and Cornwall and those parts of Essex and Kent which are outside the Metropolitan Police district. I must, however, make it clear that this requirement may again be imposed over the whole country at any time if the Government think that course necessary.

Mr. Bowles: Does my right hon. Friend mean that cars need no longer be locked when unattended?

Mr. Morrison: In those areas, left on the highway—that is so.

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Sign-Posts (Rural Areas)

Sir A. Maitland asked the Parliamentary Secretary to the Ministry of War Transport whether a decision has yet been reached in regard to the restoration of sign-posts in rural areas?

Mr. Noel-Baker: I am glad to inform my hon. Friend that it has been decided, in consultation with the military authorities, and within certain limits and subject to certain conditions, to re-erect sign-posts in rural areas. I am taking steps to give effect to this decision as soon as possible.

H.M. STATIONERY OFFICE PUBLICATIONS

The undermentioned have been published recently. Copies can be purchased through any bookseller, or directly from H.M. Stationery Office.

	Price net s. d.	*Post free* s. d.
Command Papers (Session 1942-43):		
[6440.] Utilisation of Land in Rural Areas in Scotland. Report of the Committee appointed by the Secretary of State for Scotland, in reference to the recommendations of the Committee on Land Utilisation in Rural Areas in England and Wales. April 5th, 1943 ...	0 1	0 2
Public General Acts (6 & 7 Geo. 6) (Session 1942-43):		
Ch.16. Agriculture (Miscellaneous Provisions).	0 6	0 7

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A new and limited issue of the *British Pharmacopoeia*, 1932, which has been out of print for some time owing to destruction of copies by enemy action, is now on sale. Copies (21s., or 21s. 9d. including postage) may be obtained from Constable and Co., Ltd., 10, Orange Street, London, W.C.2. Also available are the First Addendum (1936) 5s.; Second Addendum (1940) 2s.; Third Addendum (January, 1941) 3s. 6d.; Fourth Addendum (October, 1941) 5s.; and the Fifth Addendum (1942) 5s.

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It is reported that on the noted Soviet breeding centre at Karavayevo, the average milk yield from 250 cows in 1942 was 1,194 gallons. One cow, Poslushnitra, is credited with a yield of 3,647 gallons during her last lactation.

NOTES AND NEWS

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events

June 2nd.—Meeting of the Editorial Committee, N.V.M.A., at 36, Gordon Square, W.C.1, 2.30 p.m.
June 3rd.—Meeting of the Central Veterinary Society, Conway Hall, W.C.1, 2.30 p.m.
June 4th.—Special Meeting of the Yorkshire Division, N.V.M.A., at York, 2.30 p.m.
June 4th.—Meeting of the South Wales Division, N.V.M.A., at Carmarthen, 2 p.m.
June 8th.—**One-hundredth Annual General Meeting of the Royal College of Veterinary Surgeons,** at the Royal Agricultural Society of England, 16, Bedford Square, 11 a.m.
June 8th.—R.C.V.S. Committee Meetings, 16, Bedford Square, W.C.1.
June 8th.—Annual General Meeting of the Victoria Veterinary Benevolent Fund at 16, Bedford Square, immediately following the Annual General Meeting R.C.V.S.
June 9th.—R.C.V.S. Committee Meetings, 16, Bedford Square, W.C.1.
June 10th.—**R.C.V.S.** Committee and **Council** Meetings, 16, Bedford Square, W.C.1.
June 12th.—Meeting of the Scottish Metropolitan Division, N.V.M.A., at Stirling, 2.30 p.m.

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R.C.V.S. Annual General Meeting

Owing to the paper shortage it will be impossible to print sufficient copies of the Annual Report to circulate to all members on the Register. Members who wish to receive a copy should send a postcard giving name and address to the Secretary, R.C.V.S., 18, Victoria Avenue, Harrogate.

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R.C.V.S. OBITUARY

Gibson, William, Capt. R.A.V.C. (T.A.), 35, Avenue Road, Grantham, Lincs. Graduated London, July 13th, 1921. Died May 22nd, 1943, after a short illness; aged 45 years.

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R.C.V.S. ANIMAL MANAGEMENT EXAMINATION

List of Successful Candidates
(*Continued*)

Liverpool:

Davies, Ifor	Obertelli, J. M.	Whittle, W. N.
Evans, Oswyn	Ockey, J. H.	Wilkinson, G. T.
Lloyd, W. H.	Thompson, R. G.	

Dublin:

Byrne, J. J.	Jennings, Richard	O'Mahony, C. P.
Byrne, P. J.	Kealy, Brendan	O'Rourke, J. J.
Coard, E. F.	Loughlin, Eamoun	Polden, A. W.
Coe, Thomas	Lynch, Richard	Powell, W. V.
Conlon, P. K.	Lyttle, C. N.	Quaid, Thomas
Cremin, C. J.	McCann W. J.	Redahan, Bernard
Curtin, Sean	McDonald, Robert	Skuse. H. G.
Henigan, M. J.	McGroarty, D. J.	Wiltshire, F. H.
Hickey, T. F. (credit)	O'Leary, Harry	

(*To be concluded*)

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VETERINARY COLLEGE FOR WALES PROPOSAL

At a recent meeting of the Anglesea County Agricultural Committee a letter was submitted from the Agricultural Organiser of the Pembroke County Council, stating that his committee had considered in the light of the funds which county councils would derive from the Welsh Church Commissioners, the suggestion that a veterinary college was needed in Wales, and that he had been instructed to ascertain from other counties in Wales if they would consider favourably the setting up of a Veterinary Department at a central place, such as Aberystwyth, so that students might be trained for the diploma or degree course in Veterinary Science. After a discussion it was resolved to support the suggestion in principle.

Carmarthen Agricultural Education Committee have decided to support the proposal; also to recommend that representatives of the six South Wales counties be invited to a conference to discuss the question. It was pointed out that Wales was the only country in the British Isles which provided no training for students wishing to take up veterinary science as a career.

ROYAL ARMY VETERINARY CORPS

The following are extracts from recent issues of *The London Gazette*: The undermentioned to be Lts.: Peter Anthony Kerr (270020) (April 8th, 1943); Alexander Pollock (270022) (April 9th, 1943); John Riddell Grey (270202) (April 12th, 1943); Isaac Victor Gordon Parker (266486) (March 22nd, 1943).

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"MORE MILK" AWARDS

Diplomas are to be awarded by the Minister of Agriculture in recognition of the great achievements in milk production attained on thousands of our farms during the first year of the "Victory Churn" Contest. An increase of 20 per cent. or more in milk sales in the period April 1st, 1942, to March 31st, 1943, compared with sales for the previous year, earns a Red Diploma, and sales that have increased 10 per cent. or more entitle a farm to a Blue Diploma. Each diploma will cite the name of the actual farm on which the increased production has been achieved, and be awarded to "the Farmer and Farmworkers" of that farm in recognition of their loyal service.

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SIR JOHN RUSSELL HONOURED

The Albert Gold Medal of the Royal Society of Arts is to be conferred upon Sir John Russell, director of Rothamsted Experimental Station, which this year celebrates its centenary. The announcement of the award was made on Wednesday of last week, when Sir John Russell gave the last of a series of special lectures on "Agriculture to-day and to-morrow." He is retiring from the direction of the station this year, having held the post since 1912. Sir Edward Crowe, President of the Society, said it was likely that Sir John Russell's medal would be inscribed "For his services to agriculture in many lands and notably for his researches in soil science."

Mr. R. S. Hudson, Minister of Agriculture, who presided, congratulated Sir John Russell on the award. The public at large must be made to realise that the soil of Britain was a priceless heritage. If agriculture was to be carried on over any long period it was essential that the soil should be maintained in a condition to enable it to go on producing food year after year, season after season. Neglect of this fundamental principle resulted in untold misery in the United States, for example, in the intractable problem of soil erosion and the dust bowl. Neglect on a minor scale in this country resulted in the millions of unfertile acres we were faced with three years ago, when the intensive ploughing-up campaign was started.

He emphasised that point because there was considerable danger of the public being misled by enthusiasts into thinking that we could order any particular type of food to be grown to the exclusion of some other type in any particular country.

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N.F.U. AND CHAMBER OF AGRICULTURE FOR SCOTLAND

An Ad Hoc Committee has been set up by the War Committee to review the conclusions contained in the Luxmoore Report on Post-War Agricultural Education in England. Although the Report refers chiefly to conditions in England and Wales, the War Committee feels it desirable that it should keep track of all phases of current thought related to post-war planning.

Watch is also being kept on developments following the Government's decision to ask the Committee on Veterinary Education under the chairmanship of Dr. T. Loveday, M.A., to review the Report submitted by them shortly before the outbreak of war. The matter is to be raised with officials of the Department of Agriculture, when the progress of the Scheme for the Control of Animal Diseases will also be under discussion.

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SUMMER RATIONS FOR PIGS AND POULTRY

In a recent announcement the Agricultural Departments and Ministry of Food state that, owing to the exceptional weather conditions, there is a temporary accumulation of stocks of cereal feeding-stuffs which it is proposed to release to those commercial keepers of pigs and poultry who are prepared to take early delivery of the whole of their summer supplies of feeding-stuffs and store them on their own premises. Pig and poultry keepers are urged to take advantage of this offer and to notify their merchants as soon as possible. They will not only obtain an additional month's rations, but will also save transport and handling charges. Having obtained the whole of their summer supplies, they should take care to avoid the extravagant use of these supplies during May and June, since their use will have to be spread over the four months, May to August.

It is proposed to increase the allowances granted on application to pig breeders in respect of farrowing sows and gilts; also to grant supplementary rations for the purpose of rearing pullets next spring

Rations of balancer meal for domestic poultry will be increased on June 1st from 4 lb. to 5 lb. per month for each hen for which rations are provided.

CORRESPONDENCE

Letters to the Editor should reach the Office not later than by the first post on Monday morning for insertion in following Saturday's issue.

The views expressed in letters addressed to the Editor represent the personal views of the writer only and must not be taken as expressing the opinion or having received the approval of the N.V.M.A.

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VETERINARY EDUCATION

Sir,—In your March 13th issue you invite letters on veterinary education. As I see it, the vital point is the "one-portal" system. As I have been opposed to this system since the day I entered the "Dick," my views may be of interest. I was far from satisfied with the course at the veterinary college. It seemed an unnecessary duplication to have special outside lecturers coming to the veterinary college for biology, chemistry, physics and physiology when these could be better learned at the university where there was better practical instruction; none of the lecturers in these subjects at the "Dick" was a veterinarian. The purely veterinary classes, save anatomy, were mediocre, and it was possible to go through the course and graduate without having done any practical work; even the simplest manipulations such as intravenous injections were not taught, the main fount of knowledge being the copious notes taken at the dictation of the lecturers. The acquisition of practical knowledge was left to what the keen student learned with private practitioners. I was so fortunate as to be with two practitioners, either of whom would have been a first-class teacher, but who found their practices more lucrative and interesting than an ill-equipped college department. I was pleased with the university classes in the veterinary B.Sc. course, where the lecturers were experts in their speciality and had excellent facilities for practical work and for demonstration; these classes were valuable and were conducted in a more intelligent manner. The standard of instruction depends on adequate funds and Dr. Bradley had to spend much of his valuable time touting for funds, as indeed do the principals of other veterinary colleges. Thus lack of funds is a deadening influence on the veterinary colleges and would be avoided by joining up with the universities. No doubt matters have improved in the last 20 years, but only relatively; the colleges are still as far behind the 'varsities as regards equipment and funds.

The advantages of being a member of a wider and more historical institution are great. Every Scottish university has a long and proud history behind it, there are many cultural and other societies, there is the union, there is the immense educational value of meeting men in other vocations and hearing their viewpoint. The outlook at the veterinary college is too circumscribed, too parochial and too reminiscent of the ebullient type of Scot who bowdlerises his countrymen with catchwords such as "here's tae us, whae's like us, damn few and they're a' deid." Too often in the colonies one hears of veterinary departments which will not co-operate with others and I think this is due to the segregation of the veterinary students in their youth.

Whatever advantages the "one portal" system had in the past there seem to be none but the reverse in these times and I trust that those responsible will gracefully yield their prerogative and render the best service to their profession which is in their power.

Yours faithfully,

J. L. Stewart.

Department of Animal Health,
Pong-Tamale,
P.O. Box 32, Tamale,
Northern Territories,
Gold Coast.

May 1st, 1943.

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VETERINARY SURGEONS ACTS (AMENDMENT) BILL

Sir,—From a careful study of the draft of the Veterinary Surgeons Acts (Amendment) Bill it appears that the sole effective criterion in deciding whether an unqualified person is suitable for registration, or not, is the length of time he has practised medicine and surgery. Since a successful quack may manage to gull the public for many more than five years, this suggestion is a remarkable reward for skill in bluff.

In the whole of the draft there is nothing to suggest that the Council, R.C.V.S., has considered the moral aspect of registering persons who are not competent to practise veterinary medicine and surgery. To register people on a criterion of time without regard to competence is nothing less than immoral and would involve the R.C.V.S. in an act of true quackery. The few unqualified persons who really have competence should be willing to submit to an examination and I personally feel that that should be the minimum requirement.

The choice of name "Animal Practitioner" is singularly unhappy. In my district I have made enquiries and I find that to the layman an "Animal Practitioner" conveys much more than "Veterinary Surgeon." It is a marked reflection on the inability of our governing body to bring the profession before the public.

I suggest the draft should be scrapped, and some money spent on professional publicity.

Yours faithfully,

Miller Watson.

3, Walmer Crescent,
Glasgow, S.W.1.

May 15th, 1943.

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FLOATING TISSUE IN AFTERBIRTH

Sir,—One has recently noticed in the cow that, where an afterbirth comes away immediately after delivery of a calf, one often finds a piece of tissue floating freely within the membranes. This tissue, clay coloured, is about 2 in. × 1 in. in size, and looks like a piece of liver, being quite smooth and soft. I understand a similar tissue is found in the membranes of a mare.

Professor Grahame, of the Royal (Dick) Veterinary College, Edinburgh, very kindly made histological preparations of this tissue and states "The structure you sent is a specimen of what are known as hippomanes. They are detachments from the chorionic membrane and consist of epithelial cells, mesodermal tissue and what is called 'uterine milk'—this is a uterine secretion which lies between the uterus and membrane. Therefore you will find fatty globules, crystalloids and other inclusions."

Perhaps some of your readers could tell us what purpose, if any, this tissue serves.

I am, Sir,

Yours faithfully,

J. E. Johnson.

Fieldhead,
Whickham,
Newcastle-on-Tyne.

May 8th, 1943.

Advertiser's Announcement

'Dermynox'

'Dermynox' brand *bis*Butyl Xanthogen in Oil is a preparation of organically-combined sulphur introduced by Burroughs Wellcome & Co. for external application in the treatment of skin disorders in animals. It is stated to be of value in sarcoptic and demodectic mange, eczema, grease, mallenders, favus and allied skin conditions in horses, dogs, cats and poultry. Prices (subject to professional discount) are: Bottles of 4 fl. oz. 2s. 3d. (Purchase Tax 3½d. extra); 40 fl. oz. 15s. (Purchase Tax 1s. 10½d. extra).

'Wellcome' Brand C. Pyogenes Toxoid

'Wellcome' brand C. pyogenes Toxoid is a recent addition to the range of biological products issued by Burroughs Wellcome & Co. It is a combined toxoid and vaccine of high antigenic efficiency, and is intended especially for the prevention and treatment of summer mastitis; it may, however, be used also in metritis and other conditions due to *C. pyogenes* infection. Prices (subject to professional discount) are as follows: 50 c.c. 6s. (Purchase Tax 9d. extra); 100 c.c. 10s. 6d. (Purchase Tax 1s. 4d. extra).

DISEASES OF ANIMALS ACTS, 1894 TO 1937, AND AGRICULTURE ACT, 1937 (PART IV).

Summary of Returns of Confirmed Outbreaks of Scheduled (Notifiable) Diseases

Period	Anthrax	Foot-and-mouth	Parasitic Mange*	Sheep Scab	Swine Fever
April 16th to 30th, 1943 ...	10	—	—	2	20
Corresponding period in—					
1942 ...	19	—	—	7	18
1941 ...	21	14	—	15	40
1940 ...	31	1	—	4	170
Total Jan. 1st to April 30, 1943	118	10	5	94	188
Corresponding period in—					
1942 ...	114	11	26	105	141
1941 ...	184	209	7	114	639
1940 ...	214	18	11	105	1,296

Note.—The figures for the current year are approximate only.
* Excluding outbreaks in Army Horses.

Tuberculosis (Attested Herds) Schemes

The number of Attested Herds, *i.e.*, herds officially certified as free from Tuberculosis as at April 30th, 1943, was as follows:—

England	Wales	Scotland	Total (Great Britain)
3,897	8,783	3,419	16,099